GUIDE FOR DEVELOPMENT OF ARMY OPERATIONAL REQUIREMENTS DOCUMENTS (ORD)

24 October 2002

INTRODUCTION:

The ORD is the foundation of the acquisition process and is required for initiation of all materiel acquisition programs, primarily at Milestone B. The ORD is not done just "to check the block" and then be ignored while the user and materiel developer negotiate required capabilities during system development. Rather the ORD is the document of reference that clearly details: why we need the system; how the system will be used; where the system will be located in the battlespace; who will need the system – for what function and what force element; when the system will be available; what the system is through identification of Key Performance Parameters (KPP's) and other required capabilities with supporting rationale, and finally, how much the system will cost.

The ORD is updated as new information is gathered and approved, usually after program initiation (e.g., Milestones B) and, before Milestone C. The ORD also serves as the source document for: Development of the Basis of Issue Plan (BOIP) (Who will actually get the system); development of the test and evaluation documents (Does the system do what we want); development of the training requirements (How do we train the soldiers to be able to use the new system); development of the Integrated Logistics Support documentation (How are we going to support and maintain the new system); development of the Quantitative and Qualitative Personnel Requirements Information (QQPRI) (What skills will be required to operate and maintain the new system). Additionally, the ORD is one of the source documents for development of the Tactics, Techniques and Procedures (TTP) and Field Manuals (FM).

The attached format will be used for all Army-developed Operational Requirements Documents. This guidance complies with the instructions provided by DA and OSD. Within the format guide instructions/guidance are in italics and preceded by a dash. Mandatory entries are in normal print. For some sub-paragraphs, "Not applicable" may be appropriate. An outline of the ORD format is also included at Tab 1.

Change Number___, Date___

OPERATIONAL REQUIREMENTS DOCUMENT
FOR
TITLE
ACAT _____
Prepared for Milestone ___ Decision

Date

- This heading information that will be placed at the top center of the first page of the ORD.

-- Insert the Name of the system where the format calls for "Title".

-- If this is a change to an approved ORD insert the change number and date approved in the upper right hand corner of this page.

-- Insert the Acquisition Category (ACAT) of the system. The ACAT of a system is mainly based on the cost of the system. If this is a "JROC Special Interest" system, so state.

-- Finally, insert the "Milestone" for which the ORD is being prepared. Development of the ORD begins following the approval of the Mission Needs Statement (MNS) or following the determination that a materiel solution is required. This determination is the result of the Mission Area Analysis and Mission Needs Analysis. The initial cut of the ORD describes a potential materiel concept and can be used at the decision review between Milestone A and Milestone B to determine if sufficient data is available to continue developing the materiel concept or if additional data is required - a "go/no-go" decision for the materiel concept. Following the decision review the first cut of the ORD is used for the Analysis of Alternatives (AoA), Materiel Developer's performance trade-off analysis and how the system will be employed. The first cut ORD will be completed, approved, and used for program initiation, normally at Milestone B. The ORD is also updated before Milestone C. There will be exceptions to this rule of program initiation at Milestone B since some programs may be of sufficient maturity, based on experimentation, commercial development or Non-Developmental Item to go directly to production. However, an approved ORD is required for all programs.

-- See TP 71-9 Glossary, Section II for definitions of the Acquisition Categories and Milestone Decision Points.

1. General Description of Operational Capability.

1.1. Statement of the Need.

- The purpose of this paragraph is to clearly explain the need for the system or shortcoming the new system is trying to solve.

- If a MNS exists, copy paragraph 2 from the MNS and insert here. Summarize the mission needs.

- If there was no MNS, clearly explain the need or the deficiency. Discuss any studies, modernization plans or strategies that helped determine the need. The key is to have a creditable audit trail back to the origins of the requirement, give a full understanding of the basis for the requirements.

- If the need is mission critical, so state. Mission critical systems are those systems whose operational effectiveness and operational suitability are critical to successful mission accomplishment.

1.2. Describe the overall Mission Area.

- For the purposes of writing the ORD, the Overall Mission Area is the Battlefield Operating Systems (BOS) as defined FM 7-15, Army Universal Task List (AUTL). By using the AUTL we gain "precision" or bounds on the definitional terms, consistency, and commonality – everyone talking the same "language." Refer to the AUTL for a description of the BOS to the Tactical Level. One of the seven identified BOS will be used as the overall mission area. The BOS are broken down to the sub-task or tactical level. Focus on the tactical level (X.x) for the applicable sub-task to represent the mission area. For example, if the mission is fire support, the BOS is "Fire Support (3.0)". The first sub-task is "Decide Surface Tactical Targets to Attack (3.1)", "Employ fires to influence the will, destroy, neutralize, or suppress enemy forces (3.3)", etc. If the mission is logistical support, the BOS is "Combat Service Support (6.0)." The first sub-task level would be "Provide Supplies" (6.1), "Provide Maintenance" (6.2), "Provide Transportation Support" (6.3), etc.

NOTE: FM 7-15, Feb 01, is currently maintained on the web at the following URL: http://www-cgsc.army.mil/cdd/f1autl/f1autl.htm. Gain access by obtaining a password as described on the "access page."

1.3. Analysis of Non-Materiel Solutions.

- Lay out non-materiel solutions. Discuss and evaluate the results of the DTLOMS determination analysis and how well the non-materiel solutions meet the need stated in paragraph 1a.

- Explanations must clearly describe the non-materiel solutions considered and why these solutions do not meet the need.

- The basis for this analysis may be paragraph 3 of the MNS, but will not be a direct lift from the MNS since the MNS analysis is not in sufficient detail to fully explain why non-materiel solutions will not meet the need. Also, use the DTLOS analysis found in the Mission Needs Analysis for additional analysis and rationale to support the discussion in this paragraph. Identify any changes in US or allied doctrine, operational concepts, tactics, organization, and training that were considered in the context of satisfying the need. Describe why such changes were judged to be inadequate.

- A copy of the Mission Needs Analysis and proposed critical operational issues and criteria (COIC) will accompany the ORD when forwarded to HQ TRADOC for approval processing.

1.4. Identify the Capstone Requirements Document (CRD).

- The CRD captures the overarching requirements for the mission that form a "family-of-systems." The CRD is normally developed for joint programs and reflects the need of the Joint Commander. The JROC will direct the development of the CRD.

- If the ORD is developed from a CRD, identify the applicable CRD. There may be more than one CRD applicable to the ORD. The CRD may not always be an Army CRD, therefore, check with the other services to see if any their CRD apply.

- Provide the title and date approved for all applicable CRD.

- The HQ TRADOC Action Officer and the DA representative (either DCSOPS or DCSPRO) to the ICT can help determine if a CRD applies to the ORD.

- If a CRD did not precede the ORD indicate "Not applicable".

1.5. Describe the Proposed System.

- Briefly describe the proposed system. This paragraph describes what the system will be able to do, what it will consist of, what it allows soldiers or the force to accomplish and whether or not it is a replacement for an existing system.

1.5.1. Define the Missions.

- This paragraph should briefly describe the missions the system will perform on the battlefield. For example – fire support, suppression of enemy air defenses, interdiction, reconnaissance, etc.

1.5.2. Operational and Organizational (O&O) Description.

- This paragraph is the "soul" of the ORD. It feeds paragraphs 5, 6, 7, and 8 and should answer who, what, when, why, where, and how as it relates to the proposed system, its use and location on the battlefield. The O&O description will describe the mission the proposed system will accomplish, how the system will be used, operated, maintained, and supported on the battlefield. It provides the understanding of the required capabilities and describes those minimum functions that the system must have which are linked to the key performance parameters. It provides the basis for the development of the rest of the ORD and attachments, as well as provides the basis for test and evaluation activities (e.g., test support packages, COIC, and operational test readiness statements) and logistics support requirements. Finally, it provides the underpinnings needed to conduct further analysis. Previous documents including the vision, O&O Plans (if developed), available analysis, and Objective Force Capabilities (OFC) can be used to develop the O&O description.

- The O&O Description provides the foundation for the remaining portions of the ORD. It provides the logic trail leading from the general to the specific requirements described in paragraphs 4 & 5 of the ORD.

- You can use a graphic to assist in describing the O&O Description. However, it does not replace the O&O text and can not be a "bumper sticker" – a common statement that when viewed in isolation does not adequately describe the O&O Description.

- When properly completed, the O&O description will provide the following:

1.5.2.1. Force Benefit.

- State in clear, simple language the benefit or contribution the system provides to the force from the combat commander's perspective relating to the pertinent AUTL listed in paragraph 1.2. For example, increased range to engage an enemy at ranges beyond his range, reducing potential counterfire losses.

1.5.2.2. Employment.

- Describe how proposed system fits into the AUTL Battlefield Operating System (BOS) sub-task description for the mission area described in paragraph 1.2.

- Describe how the system, in turn, fits in the force operational concept (e.g., Interim Force O&O (IBCT/IDIV), Objective Force O&O etc.) (For example: Crusader provides highly mobile, long range, rapid fires to the operational force).

1.5.2.3. Organizational Description.

- Identify where geographically on the battlefield the system will normally be located – maneuver area, brigade trains, etc.

- Identify who would use the system (type unit), how many systems are required and when they are required.

1.5.2.4. Other systems to interact with.

- Identify other key systems the system will interact/interface with on the battlefield and for what purpose. Key automation interactions must identify who, how, and why the interaction takes place so as to achieve the needed level of joint or intra-Army interoperability.

1.5.2.5. Dependencies.

- Identify the type units and type of support (dependencies) that the system will need in order to do its mission.

- Consider the type of units and their support the system will provide.

- The dependencies are more than Integrated Logistics Support (ILS); they include all support required to perform the mission – logistics, signal, intelligence, engineer, joint and coalition, etc.

- Examples include:

-- POL and ammunition units need engineer support to establish the POL and ammunition supply points – clear and level the terrain, build berms around POL tanks and ammunition stacks, access roads, etc.

-- ASAS is dependent on external support organizations for maintenance and communications in order to conduct and sustain IEW operations. ASAS also depends on and interfaces with other Army, joint and coalition forces.

- Think through the system employment and how the system will fit on the battlefield. Good quantitative analysis underlies everything when developing the ORD.

1.6. Supporting Analysis.

- List the key analyses used to identify the need for the system. List only the pertinent analyses (e.g., Mission Needs Analysis, experimentation, Requirements Analysis, Analysis of Alternatives, etc.). Provide the purpose of the analysis, who conducted the analysis and the date the analyses were approved. Attach a brief summary of each referenced analyses at Appendix C.

1.7. C4ISR.

- This paragraph should summarize the details in Paragraph 5.3 that describes the C4I/Standardization, Interoperability, and Commonality, and Paragraph 5.4 that describes the need for computer resources. It should also explain the concept for information exchange and the benefit to be gained from exchanging the information, both from the proposed system and to the proposed system. This paragraph, and paragraph 1.5.2 assists developers of the C4I Support Plan. Include attributes that are critical to the information being exchanged. For example, attributes may include, but are not limited to: timeliness, format, classification, data integrity, and information accuracy.

- This paragraph explains the C4 system used to transport, store, process, and network the information being exchanged in support of the proposed system.

- State "Not Applicable" if the proposed system has no need to exchange information.

1.8. Evolutionary Development.

- This paragraph will discuss the development of the system by blocks over time. Each block will consist of a set of operational capabilities and relates back to the basic BOS battlefield function.

- We use blocks in order to get the system to the soldier as soon as possible and to provide the Materiel Developer a means to plan the development of the system throughout the life-cycle.

- Blocks will be grouped to provide a coherent set of functions considering both achievability and affordability.

-- Achievability – When technology is available; what is good enough. Think through the need, over time, to meet the force needs. What will be in the hands of the troops quickly – allows Materiel Developer to plan the development cycle.

-- Affordability – Discussed in terms of availability of funds. Cost as an Independent Variable, is considered during the development of the blocks.

2. Threat.

2.1. Threat to be Countered. Identify the threat systems the proposed system is intended to counter or target, i.e., the anti-tank guided missile is intended to counter enemy heavily armored vehicles or lightly armored infantry fighting vehicles (what U.S. can do to the

enemy). This paragraph does not discuss hostile systems targeting the proposed system. Information regarding hostile systems targeting the proposed system belongs in paragraph 2.2 (below). If the proposed system does not counter a hostile system this should be clearly stated in this paragraph, i.e. "The XYZ system is not intended to counter a specific threat."

2.2. Projected Threat Environment. Identify the projected threat environment in which the proposed system will operate. This paragraph addresses only the anticipated threat systems/environment and does not include climate or terrain. If the proposed system is an armored vehicle, the threat environment would include other armored vehicles, ATGMs, direct and indirect fire weapons, mines, etc (what the enemy can do to the U.S.). Any system that is a threat to our proposed system should be briefly addressed. The details regarding the threat systems will be addressed in the System Threat Assessment Report (STAR). For more information about STARs, see chapter 15, TP 71-9**.** In most cases, a statement should be included that the system may have to operate in an EMP and NBC environment. Even if an EMP/NBC environment will not affect the system, NBC must be mentioned. This will ensure the system is designed and tested to ensure operability by soldiers wearing MOPP gear. (Reference DIA or Service Technical Intelligence Center approved documents. For potential MDAP reference the DIA validated threat assessment.)

- The **DCSINT at HQ TRADOC** will approve all threat statements in ORDs and the STAR in order to ensure consistency with the emerging operational environment or other threat documentation.

3. Shortcomings of Existing Systems and C4ISR Architectures.

3.1. Describe why existing systems cannot meet the need. This comparison consists of a Course of Action problem where status quo is an alternative. That is to say if we don't do anything to the current system, it will not meet the required capability. Alternatives may include a new system, improvement of existing systems, adoption of allies or sister service systems, etc. Identify what systems were looked, at and why they did not meet the need, or why there is still a shortcoming.

3.2. Describe why current C4ISR operational, system and technical architectures cannot meet the requirements for the proposed system. If there are no C4ISR applications, indicate "Not Applicable."

- Reasons why the system no longer meets the needs of the force may include, but not limited to, changes in threat, new missions, new O&O, etc.

- Refer to the analyses attached at Appendix C for rationale to support the discussion in this paragraph.

4. Capabilities Required.

- Paragraph 4 is the "Heart" of the ORD. The required capabilities in the paragraph will lead to the development of the materiel developer activities, STRAP, test and evaluation activities and the logistics burden.

- The required capabilities will be described in operational terms; keep in mind the operators, crews, and leaders that will be performing missions in an operational environment.

- Give separate rationale for each requirement. Include the rationale in the body of the ORD immediately following the requirement statement is supports, e.g., "The system requires X. Rationale. The system must be able to operate . . ."). If objectives are stated, provide rationale that justifies the objective value as well as the threshold. State rationale in operational language that provides a creditable audit trail explaining the operational significance of each requirement.

4.1. System Performance.

- The capabilities identified in this paragraph will relate directly to those described in O&O portion of paragraph 1.5.2.

- Soldiers must be able to operate the system to the required operational performance for mission accomplishment. Human Systems Integration/MANPRINT is discussed in paragraph 5.5 of this guide.

- Identify the required capabilities in terms of blocks. The system will be developed in blocks that will be phased in over time. Numbered paragraphs (4.1.1), 4.1.2, etc.) will relate to each block.

- Block II and subsequent blocks address the threshold requirements as technology matures.

- Blocking allows us to get the minimum capability that satisfies the individual block KPP to the final, without waiting on the 100% solution.

- Both key performance parameter (KPP) and non-KPP will be identified in each block.

- Do not state as a required capability "must comply with regulations, military standards/specifications, STANAGS or QSTAGS." In addition, the rationale should not refer to Army regulations, military standards, or military specifications.

- State capability requirements in operational language, what the system must be able to do operationally.

- To reduce the number of requirement capabilities identified in the ORD, do a common sense check. Do not need to list the requirement if common sense says we will get the required capability – for example, if the GPS is specified as a requirement to be part of the system, then do not have to specify accuracy, refresh rates, etc., because these are part of the GPS requirement. Also, do not need to specify those things that are already mandated by law.

- Rationale must answer "why" the operational capability is required. To the maximum extent possible, the operational value will be supported by rationale founded on sound experimentation, proponent analysis, and/or TRAC analysis. Rationale is required for each capability identified in paragraph 4 (4.1 – 4.4).

- Caution: Do not introduce new requirements in the rationale.

- Define the KPP as that capability or characteristic so significant that failure to meet the threshold can be cause for the concept or system selections to be reevaluated or terminated – true showstopper; must truly affect a system's warfighting functions. There will be an absolute minimum number of performance parameters designated as KPP.

- Identify the KPP with an "*" in front of the paragraph number.

- KPP must be measurable, achievable, and operationally relevant.

-- The threshold is the minimum acceptable value that, in the user's judgment, is necessary to satisfy the need.

-- The objective value is an operationally meaningful and justifiable capability above threshold value that is desired by the user and which the PM is attempting to obtain. The objective value may be stated as a threshold value in a subsequent block.

- KPP and their associated threshold and objective values may be updated when new data is received between MS B & C (Old MS I & II).

4.1.1. Block I

Key Performance Parameter	Threshold
KPP 1	As Appropriate
KPP 2	"
KPP 3	"
Etc.	"

4.1.1.1 KPP.

– Identify each KPP and rationale that supports the KPP. Each KPP will be identified in a separate paragraph and summarized in table format as the first entry in the KPP paragraph. The ORD KPP summary (table including all KPP) will be included in the ORD as Table A. Enter only the threshold value; the objective value may be the threshold value identified in a subsequent block.

*4.1.1.1.1. KPP 1

Rationale:

*4.1.1.1.2. KPP 2

Rationale:

NOTE: The number of KPP should be kept to the absolute minimum; usually 8 or less. There may be exceptions to this general rule when including KPP from one or more applicable CRD (see paragraph 4.2).

4.1.1.2 Non-KPP capabilities.

- Identify other capabilities and rationale that support the characteristic that apply to this block. Each capability will be identified in a separate paragraph. Enter only the threshold value; the objective value may be the threshold value identified in a subsequent block.

4.1.1.2.1. Capability 1

Rationale:

4.1.1.2.2. Capability 2

Rationale:

4.1.2. Block II.

Key Performance Parameter	Threshold
KPP 1	As Appropriate*
KPP 2	“
KPP 3	“
Etc.	“

* May be Objective Value for KPP in previous KPP paragraph.

4.1.2.1 KPP.

– Identify each KPP and rationale to support the KPP that apply to the KPP in this block. Each KPP will be identified in a separate paragraph. The table will be the first entry in the KPP paragraph. Enter only the threshold value; the objective value may be identified in a subsequent block.

*4.1.2.1.1 KPP 1

Rationale:

*4.1.2.1.2 KPP 2

Rationale:

NOTE: The number of KPP should be kept to the absolute minimum; usually 8 or less. There may be exceptions to this general rule when including KPP from one or more applicable CRD (see paragraph 4.2).

4.1.2.2 Non-KPP Capabilities.

- Identify other capabilities and rationale to support the characteristic that applies to this block. Each capability will be identified in a separate paragraph. Enter only the threshold value; the objective value may be identified in a separate block.

4.1.2.2.1 Capability 1

Rationale:

4.1.2.2.2 Capability 2

Rationale:

4.1.3 Continue this numbering system to identify each subsequent block.

4.2 Information Exchange Requirements (IER).

- This paragraph may be not applicable if there are no top-level information exchanges.

- IER and interoperability KPP, if appropriate, must be identified for each block.

- IER is the interoperability a system must have; the information that must be exchanged to accomplish the mission. They identify who exchanges the information, what information is exchanged, with whom the information is exchanged, why the information is exchanged and how the information is exchanged.

- The interoperability KPP will be measurable and testable.

- The interoperability KPP will be developed from top-level interoperability IERs. An ORD without top-level interoperability IER, may not have an interoperability KPP.

- Top Level IER are defined as those information exchange requirements external to the system with CINCs, other services, agencies, allies, and coalition systems.

- IER must track to the CRD if the ORD is developed from a CRD; if the CRD has an interoperability KPP, the ORD must have the same interoperability KPP. In rare cases, a CRD may be developed after the ORD (e.g., when another service develops a CRD and includes Army systems with existing ORD as capabilities covered in the CRD). When the ORD is updated, it will include those capabilities identified in the other service CRD.

- If the system will include GPS or other off board positioning data system, there will be external interoperability and an IER matrix will be prepared.

- IER will be described in a matrix format (sample format attached) and will be included as part of the ORD as Table B.

- See CJCSI 6212.01B for additional guidance in developing IER.

4.3 Logistics and Readiness

- This paragraph captures the logistical demands that will be placed on the Army's logistics support system.

- Address those special logistics capabilities that impact the systems readiness.

- Individually numbered paragraphs will be developed using the following points for consideration. Some of these points may not apply to a particular system and do not need to be addressed. In this paragraph there is no need to have numbered paragraphs stating "Not Applicable" for point(s) not considered.

- Reliability and Maintainability (R&M) – As system performance requirements, these capabilities are specified in paragraph 4.1. However, these system characteristics have a direct impact on system readiness and the logistics resources needed to support the system. Hence

readiness and logistics considerations, must be incorporated into the determination of any system performance R&M. For example:

-- mission related - How many of the unit systems must be sustained in a mission capable state for the unit to be successful/effective in accomplishing its unit mission?

-- support related - What system reliability and maintainability is needed for the system to achieve the unit's effective operational readiness/mission capable rate?

-- autonomous requirements - How long can the system sustain its unit's effective operational readiness/mission capable rate without maintenance support?

-- What levels of system reliability and maintainability requirements are required to achieve reductions in the maintenance force structure (number of repairers) required for the system, and/or reductions in the maintenance burden (e.g. maintenance ratio) imposed by the system?

NOTE: Bottomline for requirements development in the reliability and maintainability area is to coordinate with the RAM engineer located in your CD section. They are invaluable in working through Operational Mode Summary/Mission Profiles and developing the requisite reliability and maintainability requirements.

- Embedded diagnostics and prognostics will be used in all systems whenever possible IAW the Army Diagnostic Improvement Plan (ADIP) ORD. The purpose of ADIP is to provide an Army-wide diagnostic strategy and program to improve diagnostics while reducing support costs. Army Combat Developers and Program Managers will implement this program IAW appendix U of this publication and the ADIP ORD.

- Built-In Test Equipment (BIT/BITE) will unambiguously fault isolate to the single LRU at the unit level and single SRU at DS/GS level of maintenance.

-- Address use of Built-In Test or Built-In Test Equipment (BIT/BITE) to be able to identify the fault to the LRU while on board the system or platform.

-- Address use of embedded diagnostics at the system level to perform system health checks and to unambiguously fault isolate to a single LRU at the unit and tactical field levels of maintenance.

-- Incorporate BIT/BITE and sensors with system level Interactive Electronic Technical Manual (IETM) with the capability to perform diagnoses, maintenance, and supply business transactions and digitally convey maintenance information to the first logistics entry point.

-- Give the location and purpose (components and operation/health and status monitoring) of on-board sensors.

-- Describe required consumption/condition sensor data and how often it is transmitted to the logistics system.

- Mobility considerations – Consider ability to short track for tracked vehicles or use of central tire inflation/run flat tires for wheeled vehicles.

- Commonality in various aspects – parts, assemblies and assemblages on the platform proper and among platforms and supporting equipment throughout the fleet as well as the following:

-- Use of common tools/sets, kits and outfits w/ minimum use of special tools – contributes to less log footprint.

-- Use of common/standard support equipment for refuel, rearm, resupply, servicing, and materiel handling.

-- Use of common/ standard maintenance equipment/ sets kits and outfits, which contributes to a reduced logistics footprint.

--- tools for operator/crew use.

--- tools for unit or contact team use.

--- tools for support maintenance operations (DS and above)

-- Depot support requirements.

-- Common/standard test, measurement and diagnostic equipment for on/off system needs at unit and support maintenance use (DS and above to depot level).

- Calibration equipment and standards that may be required.

– Consider frequency of external calibration.

- Self and like vehicle recovery capability at unit.

- Use of wreckers and retrievers (Family of Medium Tactical Vehicles (FMTV) and M88s) forward Repair System for lift support forward.

- Cranes and (Rough Terrain Container Handlers (RTCH), etc.

- Use of standard vehicles, trailers, vans, shelters and their requirements for heating, cooling, integrated power management, overpressure, etc.

- Operational support equipment such as power generators, environmental control, communications and prime movers.

- Lifetime oil filters, on-board oil changer.

- AC/DC on board power generation capable of 110/220 volts 50/60 Hz and 28 volt DC with vehicle engine operating or through embedded auxiliary power and mounting brackets.

- Determine routine scheduled services for engine, drive train, wheel, hull, track, turret, etc.

- Set any limits on conduct of Preventive Maintenance Checks and Services (PMCS).

- Use of standard fuel (JP-8) and lubricants for primary operations (special lubricants/additives for cold weather/special, e.g. amphibious, operations). Fuel capacity has to support the operating ranges/durations specified in paragraph 4.a, which should reflect operations spelled out in the Operational Mode Summary/Mission Profile.

- For electronics/communications equipment, powered by batteries, use standard batteries, either military or commercial off-the-self batteries, capable of operation with rechargeable batteries during training.

- Any requirements for special kits (e.g., fording/deep water, swim or extremes of cold or hot (dry or humidity) that may drive such needs.)

- For assistance in determining logistics requirements for your system, contact DCD-CSS at CASCOM.

4.4 ESOH and Other System Characteristics

- Address environmental, safety and occupational health (ESOH) considerations. Safety and occupational health are new to this paragraph.

- Some of these characteristics may be "Not Applicable" for selected systems.

- Electronic Attack (EA)/Wartime Reserve Modes (WARM). Describe the need for protection against electronic attack and of the need for special wartime operational modes.

-- Conventional, initial nuclear weapons effects, and nuclear, biological and chemical contamination (NBCC) survivability (see appendix 5, TP 71-9).

-- Determine if the system is critical to mission accomplishment; it must survive for the mission to be successfully accomplished.

--- If the system is designated as critical it must be Nuclear Survivable and NBC Contamination Survivable (contact USCANCA for assistance in this area).

---- Determine if the system must withstand and survive the nuclear attack including blast and electronic pulse – operate during the attack.

--- Determine if the system must be operational after the nuclear attack – can be turned off before the attack turned back on after the attack to continue the mission.

--- Explain why the system is critical, must survive a nuclear, chemical or biological attack – what is its contribution to the mission, are there alternatives or other means of accomplishing the mission.

- Natural Environment.

-- Describe the natural environment in which the system will be operated, maintained and stored.

-- Include such factors as heat, cold, humidity, terrain, and oceanographic factors.

- Unplanned stimuli.

-- This pertains primarily to ammunition, rockets, and missiles and systems that contain munitions subsystems.

-- Describe the degree that the system must be protected against being hit by stray bullets or shrapnel or intentional shots by specified caliber of ammunition.

-- Describe the protection required to protect against cook-off or sympathetic detonation – ammunition exploding as a result of other ammunition exploding in the near proximity.

-- The materiel developer will develop a threat hazards assessment that will forecast potential threats to the munitions during transportation, storage or use. The munitions must be protected against these potential hazards.

-- Add the following statement: "Munitions used by this system will be developed to withstand unplanned stimuli identified in a lifecycle threat hazard assessment."

- Hazards of Electromagnetic Radiation to Ordnance (HERO).

-- This pertains primarily to ammunition, rockets, and missiles.

-- Identify what precautions must be taken to protect the munitions against unintentional detonation or damage to critical electronic components due to Electromagnetic Radiation.

- Expected mission capability.

-- Identify the expected mission capability (fully capable or percent degraded) expected under various environments.

-- Identify the safety requirements needed to protect the system, for example, nuclear protection, or protection against explosives and issues related to flight safety.

- Physical and operational security needs.

-- Identify any physical security requirements required to protect the system, e.g., classified security containers, clean rooms or temperature controlled environment.

-- Identify any operational security requirements required to protect the system during operations, e.g., protection against natural elements – sand, salt water, direct sunlight.

-- Identify any threshold capability that would be specific to different environmental conditions.

5.0 Program Support.

- Specifically assign a Joint Potential Designation (JPD) and enter it here as "JPD – 'joint', 'joint interest', or 'independent.'" The JPD will be obtained from staffing the ORD with the Air Force, Navy, and Marine Corps. They will indicate their level of interest. The JPD will be an unnumbered paragraph as the first paragraph in Para 5.0.

- "Joint" means another service is interested in the system and is willing to provide money to help develop and procure the system.

- "Joint Interest" means another service is interested in the system and wants to monitor the system development. They may participate in the ICT or ask that all documentation

regarding the development of the system be provided for their review. There is usually no need to include the other service requirements in the ORD unless they change the JPD to "Joint."

- "Independent" means another service has no interest in the system and the Army will develop it alone.

- In the following subparagraphs identify the interfacing systems (at the system/subsystem, platform, and force levels). Pay particular attention to those systems related to command, control, communications, computers, and intelligence (C4I), transportation and basing, and standardization and interoperability.

5.1 Maintenance Planning.

- Identify maintenance tasks to be accomplished, for example, maintenance and repair actions allocated to field and depot levels.

- Determine the need for programmed maintenance and surveillance inspection such as for nuclear hardness and structural integrity.

- Describe whether contractor or organic repair is envisioned for the system.

- For automation equipment support – maintenance planning is a complex effort involving hardware, software and network support efforts. These efforts include office automation, Army Battle Command System (ABCS) or other automation systems. For this type of equipment, plan for use of S-6/G-6 or CSS Automation Management Office (CSSAMO) resources. (A special text (ST 9-11-X) developed jointly by the U.S. Army Signal Center and the U. S. Army Combined Arms Support Command addresses Army Automation Support Procedures.)

5.2 Support equipment.

- Review standard support equipment requirements established in 4.3 for consistency with program support equipment. Work with the system PM to determine what support equipment exists in the Army inventory to satisfy these requirements.

- The Integrated Family of Test Equipment (IFTE) is the Army standard for automatic test equipment. Other TMDE requirements (not automatic test) must be satisfied through the Army Preferred Items List and coordinated with the PM for TMDE at Redstone Arsenal, AL.

- Describe the test and fault isolation capabilities desired of automatic test equipment at all levels, expressed in terms of realistic and affordable probabilities and confidence levels.

- As a rule, special support equipment should not be considered. If there are occasions when special support equipment is needed, it should be kept to a minimum.

5.3. C4I/Standardization, Interoperability, and Commonality.

- The discussion in this paragraph should relate back to the general discussion in paragraph 1.7.

- Describe how the system will be used with other command, control, communications, computers and intelligence systems that are forecast to exist at the time the system will be fielded. Include impact on current/planned C4ISR infrastructure.

-- Include in this paragraph the methodology to be used to assess the impact on current and planned infrastructure.

- Identify data and data fusion requirements (data, voice, video), computer network support, and anti-jam requirements.

- Identify unique intelligence information requirements, including intelligence interfaces, communications, and data base support pertaining to target and mission planning activities, threat data, etc.

- Describe considerations for joint and multi-nation use, and servicing by NATO cross-servicing units, etc.

- Identify procedural and technical interfaces, and communications, protocols, and standards required to be incorporated to ensure compatibility and interoperability with other Service, joint Service, NATO and other allied and friendly nation systems.

- The system must comply with applicable information technology standards contained in the DOD Joint Technical Architecture (JTA).

- Address interface requirements with Global Command and Control System (GCCS) or Common Operational Picture (COP).

- Address the defensive measures to be taken to ensure the availability, integrity, authentication, confidentiality, and non-repudiation of the information to be exchanged and used (Information Assurance). Include those characteristics needed to restore the information through protection, detection, and reaction capabilities.

-- To balance risks and gains, IA and Information Interoperability characteristics must be co-developed and co-evolved.

-- Implement Public Key Infrastructure (PKI) required to ensure information security over all voice, video, and data transmission.

-- Identify and develop the necessary interconnection capabilities of systems operating at different classification levels. Use approved procedures such as Secret and Below Interoperability (SABI) that have been approved by the DOD Chief Information Officer (CIO).

- Address any electromagnetic interactions that could cause interference with the operation of the system (Electromagnetic Environmental Effects (E3) and Spectrum Management (SM) Supportability). E3 are those effects caused by the unintentional interference of operating electronic equipment – e.g., the operation of an onboard radio causes inaccurate heading information to be displayed. (Contact C4ISR Directorate at HQ TRADOC for further information on the Army E3/SM program.)

5.4 Computer Resources

- The discussion in this paragraph should relate back to the general discussion in paragraph 1.7.

- Constraints. Identify anything that may limit the choice of the computer resources such as language, computer hardware, database, architecture, or interoperability.

- Identify all computer resources that are critical to the operations and support of the system, including automated test equipment.

- Integrated Support. Describe the capabilities needed for the computer to work as a part of the overall system.

- Unique Requirements. Identify any unique user interface requirements, documentation needs, and special software certifications.

- Security Needs. Identify communications, information, and physical and operational security needs to include protection of organic platform electronics from computer network attacks (CNA) directed against platform information/communications systems.

5.5 Human Systems Integration (HSI)/MANPRINT.

- This paragraph identifies MANPRINT requirements, objectives, and constraints that impact on the optimization of total soldier-system performance while minimizing lifecycle ownership costs. These program requirements are identified to ensure that soldier and soldier performance is fully considered as part of the total system. Requirements should focus on integrating human factors and influencing the design of the total system to ensure all systems can be operated, maintained, and supported efficiently and safely by soldiers, leaders, and units.

These include discussion of interfacing systems and all man-machine interface considerations. Keeping systems "soldier centric" is critical to this process. As a minimum Manpower, Personnel, Training, Human Factors Engineering, System Safety, Health Hazards, and Soldier Survivability must be addressed by both the System and Program Manager as the system transitions from one milestone to the next and continuing throughout the system's life cycle. A helpful resource in preparing this paragraph is:
http://www.manprint.army.mil/manprint/references/index.html.

- Those critical MANPRINT constraints that clearly meet the definition of KPP will be detailed in paragraph 4.1. Requirements, objectives, and constraints for each of the seven MANPRINT functional areas (Manpower, Personnel, Human Factors Engineering, Health Hazards, and Soldier Survivability) will be stated in paragraph 5.5 of the ORD.

- Training is discussed in paragraph 5.6 and safety considerations are discussed in Para 4.4.

5.6. Training.

- Provide a summary of the System Training Plan – conclusions, Military Occupational Specialties and Program(s) of Instruction. Specific detail will be articulated in the STRAP.

-- Describe the training concept to include requirements for training support package (e.g. simulators, training devices, embedded training), and training logistics. State how individuals, units, and crews will be trained to operate, maintain, and manage the system for both Active and Reserve Components. Describe the new equipment training (NET) concept to initially transfer knowledge about the system to the gaining unit. The goal is for NET to be self-taught or taught by a small NET Team using distance-learning media when it is cost- and training-effective. State Training Support Package requirements in terms of need, rationale, and projected quantities for each type of training product required to support training the system. Include requirements for Training Aids, Devices, Simulators, and Simulations (TADSS), targets, training ammunition, and the logistical concept to support the TADSS. State what training capabilities are to be embedded in terms of functional requirements and category of embedded training. If no embedded capability is required, so state.

-- State Combat Training Center instrumentation and interface requirements.

-- Include the number of systems required to support MOS specific training in the institutional training base. For example, the Family of Medium Tactical Vehicles (FMTV) consisting of MTV (Medium Tactical Vehicle (5T) and LMTV (Light Medium Tactical Vehicle (2 1/2T). The MTV vehicle handles completely different than the old M939 family of vehicles, therefore, MOS 88M training requires sufficient equipment be provided to the training base to ensure drivers are trained on the specific vehicle. Also, include the training device/TADSS requirements required for the institutional training base.

- Development of the STRAP is described in TRADOC Regulation 350-70, Chapter 11-6 and Appendix J) The information presented in this paragraph provides the materiel developer the details he/she needs to meet the system training needs.

5.7 Other Logistical and Facilities Considerations.

- Any logistical considerations not covered in paragraphs 5.1, or 5.2, should be addressed in this paragraph.

- Describe the provisioning strategy for repair, and level of repair for the system.

- Specify any unique facility, shelter, supporting infrastructure, (barracks, training facilities, maintenance facilities, motor pools) and associated costs and availability milestone schedule in support of the requirement.

- Identify special packaging, handling, and transportation considerations.

- Define unique data requirements such as engineering data for depot support and technical orders for the system and depot.

5.8 Transportation and Basing.

- For more detailed information on preparing system transportability and deployability requirements, contact MTMCTEA at DSN 927-4646 or email at dpemail@tea-emh1.army.mil.

- Describe how the system will be moved both to and within the theater.

- Consider transportation requirements by highway, commercial rail, air and sea, military air.

- Consider the following items when considering transportation and basing requirements:

-- Is the item required to be transported at gross weight by all modes?

-- Will disassembly be permitted for transport?

--- How much time, how many people, and what if any materials handling equipment will be allowed for disassembly and reassembly?

-- Is the item required to negotiate ramps on ships, landing craft, aircraft, railcars, and semitrailers?

-- Will the item have a specific prime mover?

-- The item/system will need lift points for crane lift and rotary wing sling lift, suspension points for airdrop, and tiedown/restraint points for transport by all modes.

-- What types of ships and which watercraft will transport the item?

-- What Strategic Airlift (Intertheater) will be required.

--- Is the item too big and will fit in the C-5 only?

--- Will the item be required to be transported by C-17?

--- Is there a requirement for more than one of the items to be transported in a single aircraft, or for a maximum number of aircraft to transport a multi-component system?

--- Will materials handling equipment be allowed for off-load?

--- Is transport by the Civil Reserve Air Fleet (CRAF) (commercial air cargo) required (must consider the loading doors on CRAF are smaller than on Air Force cargo aircraft and the floor is much weaker).

-- Consider if the item will be moved by air in theater (Intratheater); if so, how will it be moved (fixed-wing (C-130, C-17) or rotary wing (UH-60, CH-47, CH-53) (internal/external))?

-- If the Item/System will be assigned to the Interim or Objective force, it must be transportable by C-130.

--- How far will the C-130 need to fly to accomplish the operational mission?

--- Must the C-130 be capable of an assault landing, or is a normal landing the only requirement?

--- Will fuel for the C-130 be available at the forward airfield?

--- Must the crew of the item, or other Army personnel, fly in the same C-130 as the item? If so, how many total personnel?

--- Must the item fly in the C-130 in its operational configuration (75% fuel, 100% ammunition, and 100% armor and equipment)?

--- All transportation communication systems must be C-130 deployable.

-- Must the Item/System be transportable by rotary wing aircraft?

--- Is internal air transport by CH-53, CH-47, or UH-60 required?

--- Is external air transport (slingload) by CH-53, CH-47, or UH-60 required?

--- How far and under what conditions (sea level – 60 degrees F, 2,000 ft. – 70 degrees F, or 4,000 ft. – 95 degrees F (high – hot scenario), or other), must the rotary-wing aircraft fly to accomplish the operational mission?

-- Must the Item/system be capable of aerial delivery?

--- Is there a requirement for the system/item to be delivered as Containerized Delivery (CDS), or as ramp or door bundles?

--- Must the item be capable of airdrop from the C-130, C-17, and/or the C-5?

---- If the item is to be airdropped it must withstand a 19 G force ground impact.

---- Where will the system/item be rigged? (CONUS or elsewhere)

---- Where on the battlefield will the item be airdropped? (Brigade Support Area vs. Forward unit)

---- Should the item/system be rigged to use the C-17 Dual Row Airdrop System.

-- Does the item have a rail transport requirement in both CONUS and OCONUS?

--- Will the item require rail transport at gross weight and while on/attached to its prime mover?

--- Can the item on a railcar meet the requirements of US and NATO rail clearance diagrams?

-- Does the item require unrestricted highway transport worldwide, or are highway permits okay?

-- Does the Item require transport on the containerized roll-on/roll-off platform (CROP) and/or other types of PLS flatracks?

-- Does the item need to be transported in an ISO (International Organization for Standardization) container or does it need to be ISO compatible?

- What are the Basing Requirements? Identify the basing requirements and what facilities will be required main and forward operations – barracks, ranges, other training areas and facilities, maintenance facilities and motor pools, etc.

-- Is any ground support equipment required? (Forklifts, cranes, K-loaders, rough terrain container handlers)

-- What are the APOD personnel support requirements?

-- Consider if the creation of this system will create the need for additional Air Force Tactical Airlift Control Element (TALCE), Air Force airfield preparation teams (Red Horse Teams)Army Riggers, or Army Pathfinders?

-- What Barracks/facilities are required to support personnel at APOD/ISB?

-- If Parachutes/air items are to be stored/used they require secure/environmentally climate controlled facilities.

-- Will the system require the establishment of an Intermediate Staging Base (ISB)?

-- Will transloading from strategic aircraft to tactical aircraft be accomplished at the ISB?

-- If so, support considerations should be same as those described above.

-- What additional range requirements for weapons and tactical training are required, both at Homestation and when forward deployed?

- Sealift considerations

-- Consider the port conditions or water conditions where watercraft are expected to load and discharge, including maximum vessel draft.

-- Determine materiel handling equipment requirements at load/discharge points.

-- Consider intra-theater/theater lift capability to support onward movement and containment.

-- Review vessel interface in Joint Logistics Over-The -Shore (JLOTS) operations to include command and control.

- If applicable, consider host nation support.

- Consider maintenance support and sustainment.

5.9 Geospatial Information and Services.

- Identify the type of maps, digital data or other survey data needed for the system.

- Whenever possible use standard products – data on file or programmed for the timeframe of fielding of the system.

- Contact the TPIO Terrain Data (Ft Leonard Wood) for assistance in determining what Geospatial Information will meet the needs of the system.

- Identify the type of Geospatial Information required to support the system – whether National Imagery and Mapping Agency (NIMA) data or unique data (Mission Specific Data Sets (MSDS) to support the system.

-- Describe the impact on development, test and evaluation, or operations if the required information is not available.

-- Describe how accurate (within how many meters) and how the information must be displayed or configured to support the system.

-- Describe the area of the world, Southeast Asia, South America, Africa, Asia, Europe, etc. as required.

- This ties back to the dependencies discussed in paragraph 1.5.2.

5.10 Natural Environment Support.

- Many weapon systems require this type of information for accurate delivery of munitions, to develop the Intelligence Preparation of the Battlefield or relay to operational units.

- Identify the standard and special support required:

-- weather requirements – temperature, wind (speed and direction), humidity, etc. both at the weapon system and the target area, as required.

-- oceanographic – sea state, tidal conditions, depths, etc

-- astrogeophysical – star/planet positions, movement, solar flares/sunspots.

- Identify how accurate the data must be.

- Identify how often the forecast is required and in what format.

6.0 Force Structure. (See Appendix E)

- This is an overview of the Basis of Issue (BOI) guidance.

- Identify the number of systems per type of unit and number of units to which the system will be fielded.

- Include those quantities needed for training; specifically identify the number required to support institutional training.

- Describe who will get the system, both operational forces and institutional training base, and why (A summary of the BOI Basis of Issue guidance will be attached and will contain the details of the distribution of the system)

- This information is linked to the O&O description in paragraph 1.5.2.

7.0 Schedule.

- Identify the schedule as it pertains to each block.

- The system must be fielded with required training, training support, hardware/software, and Integrated Logistical Support including systems required for the institutional training base.

7.1 Initial Operational Capability (IOC). Identify what conditions must be present to achieve IOC for each block. Identify what blocks, in what quantity, and in what units the system must be fielded.

- IOC is defined as the first attainment of the capability to employ a weapon, item of equipment, or system with the appropriate number, type, and mix of trained and equipped personnel necessary to operate, maintain, and support the system.

7.2 Full Operational Capability (FOC). Identify what conditions must be present to achieve FOC. Identify what blocks in what quantity and in what units the system will be fielded.

- FOC is defined as full attainment of the capability to employ effectively a weapon system, item of equipment, or system which is manned and operated by trained, equipped and supported military force or unit.

8.0 Program Affordability.

- This paragraph will provide the information and data for DoD to assess affordability. Affordability is defined in terms of cost.

- Consult with the materiel developer and the DA representative on the ICT as sources for the cost data.

- The cost will be tailored to the system being developed.

- The cost will normally be life-cycle costs over the acquisition cycle.

-- Life-cycle cost includes RDT&E, procurement, military construction (MILCON), operations and maintenance (O&M), training and training products, and operations and support (O&S) costs.

-- If a system evolved from another system, the cost associated with development of the other system will be included as part of the total system costs. For example, if the system evolved from the R&D efforts of another system. These R&D costs must be included in the total RDTE costs.

-- For evolutionary acquisition, include the cost associated with fielding the capability of that particular block.

- Clearly identify the type of costs and cost baseline used to develop the program costs.

- Costs will be stated in terms of Threshold and Objective values. The Objective value will be the smaller number. The Threshold is the maximum the Army is willing to pay to attain the capability. The Objective is that value the materiel developer will attempt attain – getting the same capability with less cost.

Appendixes:

A: References. Include a list of references used to develop the ORD.

B: Distribution/Coordination Record. List all agencies the ORD was coordinated with. Include comments provided and disposition of the comments and rationale for not accommodating comments.

C: List of ORD supporting analyses. Include a list of analysis identified in paragraph 1.6 and a short description summary of the analyses used to develop the ORD and a synopsis of key pertinent results.

D: CRD(s) – ORD KPP/requirements crosswalk/linkage (when CRD is applicable). Include a table that shows the linkage of requirements between the ORD and CRD. Separately identify appropriate KPP linkage. Include all CRD when there are more than one.

E: Basis of Issue Guidance. Provide a summary of the Basis of Issue Guidance with total number of systems, units, ASIOE, etc. The Basis of Issue Guidance will identify the units to receive the system - active, reserve and institutional training base – quantities of systems per unit, MOSs of the soldiers that will operate and maintain the system, and identify the TRADOC school where the institutional training will take place. This information is best displayed in table format.

F: System Training Plan (STRAP). The STRAP is written by the proponent Training Developer. It is a living document that should be updated as requirements materialize and to support Milestone/IPR decision reviews. The Proponent may submit a STRAP waiver to Army Training Support Center (ATSC) if it is determined a STAP is not required. The STRAP, if required, will be approved prior to ORD approval. The approved STRAP will be attached to the ORD prior to submission for approval.

G: Operational Mode Summary/Mission Profile (OMS/MP). The OMS/MP is written by the ORD proponent. It will be developed from the concepts and O&O Description. The OMS/MP describes the anticipated missions, units, or mix of units that will use the system over time to include times of peace, national conflict, and war. The information presented in the OMS/MP is a structured quantitative picture of equipment usage for all missions and profiles for each mission. It provides the basis for essential capabilities described in the ORD. As such the rationale for those capabilities must be supported by the OMS/MP. The OMS/MP is a source

document for many agencies during the materiel acquisition process – logistician, requirements documents writers, organizational document writers, trainers, testers, system evaluators, operational planners, and manpower resourcing. See TP 71-9, Appendix J for additional information regarding the OMS/MP.

H: Simulation Support Plan (SSP). The SSP is a plan developed by the ICT that will detail the projected use of models and simulations throughout the system life-cycle. See TP 71-9, Appendix Z for additional information regarding the SSP.

I: Mission Needs Analysis (MNA). The MNA identifies the need the Army is trying to satisfy. The MNA considers existing doctrine, training, leader development, organization, and soldier solutions prior to considering materiel solutions. See TP 71-9, Chapter 9 for additional information regarding the MNA.

Glossary:

Part I: Abbreviations and Acronyms. Provide a list of abbreviations and acronyms with definitions.

Part II: Terms and Definitions. Provide a list of terms with definitions for the terms used in the ORD that are unique to the system or may not be familiar to readers not directly associated with the system.

Tables:

A: ORD KPP summary. Summarize all KPPs for all blocks in table format. One method to do this is to "cut and paste" the KPP tables from each block into a single table and attach the resulting table here.

B: Information Exchange Requirements (IER) Matrix. Attach the table developed for paragraph 4.2. (See CJCSI 6212.01B for specific guidance for developing the IER.

Figures:

1. Operational View Diagram (OV-1). The focus of the OV-1 diagram is to present top-level interoperability requirements with other current and future known systems. The OV-1 must support the O&O description and IER matrix. This diagram will be developed in conjunction with the IER and paragraph 4.2.

2. Systems View Diagram (SV-1). The focus of this graphic is to identify current or known future National Security Systems (NSS) and Information Technology (IT) systems and interfaces that are required to exchange information. This diagram will be developed in conjunction with the C4ISR and paragraph 1.5.2.

NOTE: Where there is information exchanged, the OV-1/SV-1 diagrams will be prepared to support the IER matrix or to show the IER matrix is not required based on how the information is exchanged.

ENCLOSURE 1
ORD Template

Change Number___, Date___

OPERATIONAL REQUIREMENTS DOCUMENT FOR TITLE OF SYSTEM ACAT___

Prepared for Milestone___Decision

Change Number___, Date___

OPERATIONAL REQUIREMENTS DOCUMENT
FOR
TITLE
ACAT _____
Prepared for Milestone ___ Decision

Date

1. General Description of Operational Capability.

1.1. Statement of the Need.

1.2. Describe the overall Mission Area.

1.3. Analysis of Non-Materiel Solutions.

1.4. Identify the Capstone Requirements Document (CRD).

1.5. Describe the Proposed System.

1.5.1. Define the Missions.

1.5.2. Operational and Organizational Description.

1.5.2.1. Force Benefit.

1.5.2.2. Employment.

1.5.2.3. Organization Description.

1.5.2.4. Other systems to interact with.

1.5.2.5. Dependencies.

1.6. Supporting Analysis.

1.7. C4ISR.

1.8. Evolutionary Development.

2. Threat.

2.1. Threat to be Countered.

2.2. Projected Threat Environment.

3. Shortcomings of Existing Systems and C4ISR Architectures.

3.1. *Describe why existing systems cannot meet the need.*

3.2. Describe why current C4ISR operational, system and technical architectures cannot meet the requirements for the proposed system.

4. Capabilities Required.

4.1. System Performance.

4.1.1. Block I.

Key Performance Parameter	Threshold
KPP 1	As Appropriate
KPP 2	"
KPP 3	"
Etc.	"

4.1.1.1 KPP.

*4.1.1.1.1. KPP 1

Rationale:

*4.1.1.1.2. KPP 2

Rationale:

4.1.1.2 Non-KPP capabilities.

4.1.1.2.1. Capability 1

Rationale:

4.1.1.2.2. Capability 2

Rationale:

4.1.2. Block II.

Key Performance Parameter	Threshold
KPP 1	As Appropriate*
KPP 2	"
KPP 3	"
Etc.	"

4.1.2.1 KPP.

*4.1.2.1.1 KPP 1

Rationale:

*4.1.2.1.2 KPP 2

Rationale:

4.1.2.2 Non-KPP Capabilities.

4.1.2.2.1 Capability 1

Rationale:

4.1.2.2.2 Capability 2

Rationale:

4.1.3 *Continue this numbering system to identify each subsequent block.*

4.2 Information Exchange Requirements (IER).

4.3 Logistics and Readiness

4.4 ESOH and Other System Characteristics

5. Program Support.

5.1 Maintenance Planning.

5.2 Support equipment.

5.3. C4I/Standardization, Interoperability, and Commonality.

5.4 Computer Resources.

5.5 Human Systems Integration (HSI)/MANPRINT.

5.6. Training.

5.7 Other Logistical and Facilities Considerations.

5.8 Transportation and Basing.

5.9 Geospatial Information and Services.

5.10 Natural Environment Support.

6. Force Structure.

7. Schedule.

7.1 Initial Operational Capability (IOC).

7.2 Full Operational Capability (FOC).

8. Program Affordability.

Appendixes:

A: References.

B: Distribution/Coordination Record.

C: List of ORD supporting analyses.

D: CRD(s).

E: Basis of Issue Guidance.

F: System Training Plan (STRAP).

G: Operational Mode Summary/Mission Profile (OMS/MP).

H: Simulation Support Plan (SSP).

I: Mission Needs Analysis (MNA).

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1. Operational View Diagram (OV-1).

2. Systems View Diagram (SV-1).